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VIRTUAL HISTORY FILES

5

FIELD OF THE INVENTION

The present invention relates generally to information
processing systems and more particularly to a methodology
10   and implementation for facilitating network navigation
through a series of selected network sites.

BACKGROUND OF THE INVENTION

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Current computer workstations and personal computers (PCs)
have the ability to connect through an Internet Service
Provider (ISP) to any of very many network sites available
of the World Wide Web (hereinafter the "web"). In general
20   when a user is navigating or "surfing" the web using one of
several available browser programs, the user is able to
identify or mark the user's favorite web sites in a
"favorites" or "bookmark" file during an network session,
and then continue surfing to other sites of possible
25   interest. The favorites listing is saved for later use in
quickly accessing the web sites previously identified as
"favorites". This may be done by simply pointing to a
"Favorites" hypertext on a browser screen and clicking on an
actuating switch on the pointer device or mouse to open a
30   listing of previously saved favorite sites. At that point,

the user can simply point to and click on the particular favorite site which the user wishes to "visit". The browser program will then connect with the indicated web site and the web site page will be presented on the user's display

5   screen. If the user then wishes to "go" to another web site on the Favorites list, the user must again have the favorites listing displayed and scroll to and select from the many sites listed. Depending upon the number of sites in the user's "Favorites" listing, that process can take quite

10 some time. Further, if the adjacent site on the list is inadvertently actuated, the user must wait until that inadvertent site is accessed before the correct site can be selected from the favorites listing.

15 In most instances, a user has a definite list of favorite sites which the user wishes to visit whenever the user logs on the Internet. As noted, although the user's favorite sites are listed, it takes some time to identify those sites and then to actually access the identified sites from the

20 Favorites listing of browser programs.

Thus there is a need for an improved methodology and implementing system which enables a more advantageous use of available programs on a user terminal by enabling a user to

25 combine the various functions of the programs and providing for selective operational and functional relationships between programs during user terminal sessions.

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SUMMARY OF THE INVENTION

A method and implementing system are provided in which a
user is enabled to input a favorites routing sequence (FRS)
5   or preferred sequence of web sites to be visited during a
browser session. In an exemplary embodiment, during a
browser session, the user is enabled to change from one site
to the next adjacent site on the FRS list using only a
single point-and-click operation within the user's browser
10   program. The user is further enabled to selectively modify
the FRS to include new favorites sites and/or delete
existing favorites sites from the listing, and to also
change the particular order of sites to be visited on the
FRS and to embed an existing FRS into a new FRS.
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BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the present invention can be
20   obtained when the following detailed description of a
preferred embodiment is considered in conjunction with the
following drawings, in which:

Figure 1 is a diagram of a computer system in which the
25   present invention may be implemented;

Figure 2 is a simplified schematic diagram showing selected
components and subsystems of the computer system illustrated
in Figure 1;

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Figure 3 is an illustration of an exemplary display screen showing several exemplary program windows useful in explaining one aspect of the present invention;

5   Figure 4 is a flowchart illustrating a portion of an exemplary methodology for implementing the present invention;

Figure 5 is a flowchart illustrating a continuation of the
10   flowchart illustrated in Figure 4; and

Figure 6 is illustration of an exemplary screen display showing an exemplary history file listing after an execution of the methodology of the present invention.

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DETAILED DESCRIPTION

The various methods discussed herein may be implemented
20   within a typical computer system 101 which may include a workstation, personal computer, laptop computer, cellular or wireless phone, and other wireless Internet devices such as so-called Personal Digital Assistant devices. In general, an implementing computer system may include a plurality of
25   processors in a multi-bus system in a network of similar systems. However, since the workstation or computer system 101 implementing the present invention in an exemplary embodiment, is generally known in the art and composed of electronic components and circuits which are also generally
30   known to those skilled in the art, circuit details beyond those shown are not specified to any greater extent than that considered necessary as illustrated, for the

understanding and appreciation of the underlying concepts of the present invention and in order not to obfuscate or distract from the teachings of the present invention.

5   In Figure 1, the computer system includes an electronics enclosure 103 which is typically arranged for housing one or more CPUs (central processing units) along with other component devices and subsystems of the computer system 101. The computer system 101 also includes a monitor unit 105, a
10   keyboard 107 and a mouse or pointing device 109, which are all interconnected within the illustrated computer system. The present invention may also be implemented in a laptop computer having a display device other than a CRT (cathode ray tube). Also shown in Figure 1 is a connector 111 which
15   is arranged for connecting a modem within the computer system to a communication line such as a telephone line in the present example. The present invention may also be implemented in a cellular system without the connector 111, and/or hard-wired to a network system through a separate
20   cable (not shown).

Several of the major components of the system 101 are illustrated in Figure 2. A processor circuit 201 is connected to a system bus 203 which may be any host system
25   bus. It is noted that the processing methodology disclosed herein will apply to many different bus and/or network configurations and is not intended to be limited to the example illustrated. A cache memory device 205, and a system memory unit 207 are also connected to the bus 203. A modem
30   209 is arranged for connection 210 to a communication line, such as a telephone line, through a connector 111 (Figure 1). The modem 209, in the present example, selectively

enables the computer system 101 to establish a communication link and initiate communication with another computer system, or network or database server.

5   The system bus 203 is also connected through an input interface circuit 211 to a keyboard 213 and a mouse or pointing device 215. The bus 203 is also coupled to a separate network subsystem interface 217, a diskette drive unit 219 and a CD drive device 222. A video subsystem 220,

10 which may include a graphics subsystem, is connected to a display device 221. As hereinbefore noted, the display device may be of any known technology for presenting display screens to a user. A storage device 218, such as a hard drive unit, is also coupled to the bus 203. The diskette

15 drive 219 and CD drive unit 222 provide a means by which individual diskette or CD programs may be loaded on to the hard drive, and accessed for selective execution by the computer system 101. As is well known, program diskettes containing application programs represented by magnetic or

20 optical indicia on the diskette or CD, respectively, or programs in system memory, or acquired through a local network or through the world wide web may be read to provide program signals. Such program signals are selectively effective to cause the computer system to present displays

25 on the screen of a display device and respond to user inputs in accordance with the functional flow of the application program being executed.

In running an Internet access program or browser program on

30 the computer system 101, the access program is typically stored in the storage device 218 and either selectively or automatically, partially or totally, loaded into the system

memory 207 when the system is initially powered-on, or at a later time if so desired by a user. The browser is selectively operable to access and execute a site selection program either directly from a diskette or CD in a drive

5   unit or directly from a copy of the site selection program stored on the hard drive unit 218. As a program is running, either a portion of the program or the entire program may be loaded into the system memory 207 and/or the system cache memory 205. Depending on specific program or system design,

10 the system may store any information accessed from a database in the storage unit 218, the cache memory 205, the system memory 207 or from a diskette or CD loaded into the corresponding drive unit 219 or 222. Assuming a user has started-up the system, and is actively running a browser

15 program for example, from memory, a series of screens will be displayed to the user on the display device 221. Each screen typically has one or more selections for the user to make in navigating through the program. In general, a user will make selections from a display screen using the

20 keyboard 213 or the mouse or pointer device 215. In an Internet browser program, the selections made by the user will determine "where" the user "goes", i.e. to what "site" or "webpage", and also, in some cases, the communications link or the path taken to get to the site selected.

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Figure 3 illustrates a typical program screen display 301 in an Internet operating session. The browser screen generally includes several rows 303 and 305, of selectable hypertext items such as "FILE", "EDIT" "FAVORITES" 309, "HISTORY" 311,

30 etc., from which a user may select to determine the next function of the browser program. An "ADDRESS" or "location" section 307 enables a user to key-in, and also displays the

name of, an internet address of a site to be, or being, visited. Other quick access buttons may be implemented on the screen for quick access to other selected network services and/or network functions including network searches

5   and or media sites. In general, any of the illustrated items may be selected through a "point and click" methodology associated with the mouse device 215, and a cursor or pointer indicium, e.g. 313, visible on the display screen. For example, a download of data from a remote site may be

10   immediately terminated during the transmission by pointing to the "Stop" or "X" button 302 and clicking on a designated mouse button. Similarly, the "Back" (backward arrow 304) and "Forward" (forward arrow 306) buttons may be used to return to the last screen display or go forward to the next screen

15   display, respectively. The back arrow 304 and forward arrow 306 are clicked to navigate to the last site visited by the user or the next site on the History file listing. The History file is automatically maintained by the browser program and is accessed and used in connection with the back

20   and forward arrows to enable quick back and forth movement to adjacent sites visited on the web. The history file is maintained by the browser program without any specific user input.

25   In the Figure 3 example, the "location" or "URL (uniform resource locator) designation is illustrated as "Homesite.com". As illustrated, when a user moves the pointer to position 313A and clicks on the "FAVORITES" hypertext 309, a further selection screen 314 is presented

30   which allows the user to select a website which the user wishes to access, e.g. Sites A-D, or to make another selection. For example, the user may also select "ADD" in

order to add the current website to the favorites list,
"DELETE" in order to delete a selected site from the list.
In accordance with the exemplary embodiment of the present
invention, the user may also select the hypertext "CREATE A
5   VIRTUAL HISTORY" in order to enable the user to create a
listing of the user's favorite sites which will be used in
connection with the Back arrow 304 and Forward arrow 306 to
quickly navigate through the user's selected favorite sites
using only a single point and click operation to go from one
10   site to the next. The term "hypertext" as used herein means
a word or text string or icon on a display screen which can
be pointed to by a displayed pointer and, in connection with
an actuation of a mouse button, can be used to cause an
action to be initiated by the browser program.
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As shown, when the user moves the cursor to position 313B
and clicks on the "CREATE A VIRTUAL HISTORY FILE" 315,
another pop-up-screen 317 appears in the example. Screen 317
includes a "FAVORITES LISTING" section 319, an "EXISTING
20   VIRTUAL HISTORY LISTING" 320 and a "NEW VIRTUAL HISTORY
LISTING" 321. When the screen 317 first appears, a duplicate
copy of the FAVORITES listing associated with the FAVORITES
function 309 is created and displayed in the illustrated
example. It is noted that this presentation is created as a
25   copy or a duplicate of the Favorites Listing and does not
affect the Favorites Listing associated with the Favorites
function 309 which remain operable as hereinbefore
described. The duplicate Favorites Listing 319 and the
Existing Virtual History Listings 320 are created to enable
30   the user to select which ones of the listed sites will be
included in the New Virtual History Listing 321 to be
created by the user. Initially, the New Virtual History

Listing 321 includes a series of blank boxes 323, 325, 327, 329, 331 and 333. The user then, by a drag-and-drop pointer technique for example, is able to drag-and-drop the selected favorite site identifiers appearing on the duplicate

5 Favorites Listing 319 and the Existing Virtual History Listings 320 over to the appropriate box in the New Virtual History Listing column 321 in the order in which the user wished to visit those sites in subsequent Internet sessions for example. As shown in the example, the user desires to

10 visit Sites C, A, F, B, and the sites contained in Virtual History List 1 (VHL1) in that order during the user's next Internet session. Accordingly, the user has inserted Site C from the Favorites Listing 319 into the first block 323 of the Virtual History Listing 321. Similarly, Site A is

15 inserted into block 325, Site F is inserted into block 327, Site B is inserted into block 329 and VHL1 is inserted into block 331. Users may select any block and insert selected sites in any order into the New Virtual History Listing 321. Moreover, as illustrated, there may be more than one Virtual

20 History Listing and the user may select to insert one or more of the several Virtual History Listings created by the user into the History Listing of the browser program in any sequence desired.

25 It is noted that a site need not be identified as a "Favorite" to be included in a New Virtual History file. Users may enter a URL (Uniform Resource Locator) instead of selecting a listed Favorite URL. Additionally, users may select a group of Favorites, i.e. a folder, to include in

30 the New Virtual History. Since multiple Virtual History Files can exist, it is further noted that one Virtual History can be embedded into another Virtual History. For

example, a Virtual History file containing two financial
websites could be embedded into a virtual history file
containing "business sites" in general.

5   After, the preferred sites have been inserted into the New
Virtual History Listing 321, the user is then enabled to
Cancel 337 if the user wishes to exit the operation, or the
user may select to proceed to INSER NEW VIRTUAL HISTORY
LISTING INTO HISTORY FILE 335 by moving the pointer to
10   position 313C and clicking on the mouse button. The user may
then, depending upon the system configuration, close the
browser program and the next time the browser is opened, the
previously created New Virtual History Listing will be at
the top (or bottom) of the HISTORY LISTING File which is
15   associated with the HISTORY button 311 (Figure 3), i.e. when
the user actuates or points to and clicks on the HISTORY
hypertext 311, the listing as shown in Figure 6 will be
presented. The particular implementation of the method for
providing a listing of a preferred sequence of preferred web
20   sites as shown in Figure 3 is but one example, and it is
understood that many other particular implementations are
possible to enable a creation of a listing of a preferred
sequence of preferred web sites for use as herein described.

25   As shown in Figure 6, the History Listing 601 which is
displayed in response to the actuation of the HISTORY button
311, includes the selected sites "C", "A", "F" and "B", in
the user-selected sequence, at the top of the listing 603.
The remaining portion 605 of the History Listing 601
30   includes the normal listing of sites last visited by the
user. When the browser initiates and goes to the user's home
page, the user may then next proceed to his favorite sites

in sequence by merely pointing to and clicking once upon the Back Arrow button 304. The program will then automatically insert the next site on the History Listing to access.

5   As shown in Figure 4, in flowchart form, the methodology begins 401 and determines that the browser has been launched 403. Next the home page is displayed 405. The program then determines if the Favorites icon has been selected 407 or if another icon is selected 413 by the user. If another icon or
10   function is selected by the user 413 then the program performs the appropriate action 415 which is not herein further discussed. If however, the user selects 407 the Favorites icon (309 in Figure 3), then the Favorites listing is displayed 409 (see 314 Figure 3) and the process moves to
15   point 501 in Figure 5.

As shown in Figure 5, after the Favorites screen 314 is presented 409, the program determines whether the user selects the CREATE VIRTUAL HISTORY function 503 or makes
20   another selection 505. If another selection is made 505, the program initiates the selection 507 and continues as appropriate. Further discussion of the selection 507 is not necessary in connection with the present invention. However, if the user selects to CREATE A VIRTUAL HISTORY 503, the
25   Virtual History Screen 317 is presented 509 and the user may proceed to create the Virtual History File as hereinbefore discussed. At that point, the user may Cancel 511 (see 337 Figure 3) and return to the Favorites Screen 314, or select to apply the user-defined Virtual History Listing 513. The
30   user is then enabled to insert 515 the user-created Virtual History Listing 321 into the History File (see Figure 6) by moving the pointer to position 313C and clicking on the

appropriate mouse button as hereinbefore discussed, and the process is terminated 517.

The method and apparatus of the present invention has been
5   described in connection with a preferred embodiment as disclosed herein. The disclosed methodology may be implemented in a wide range of sequences, menus and screen designs to accomplish the desired results as herein illustrated. Although an embodiment of the present invention
10 has been shown and described in detail herein, along with certain variants thereof, many other varied embodiments that incorporate the teachings of the invention may be easily constructed by those skilled in the art, and even included or integrated into a processor or CPU or other larger system
15 integrated circuit or chip. The disclosed methodology may also be implemented solely in program code stored on a disk, diskette or CD, (portable or fixed), or other memory device, from which it may be executed to achieve the beneficial results as described herein. Accordingly, the present
20 invention is not intended to be limited to the specific form set forth herein, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the invention.